certain specified number of items with the largest value, or that an item under comparison has a value within a specified top percentage value. As used herein, being below a threshold means that a value for an item under comparison is below a specified other value, that an item under comparison is among a certain specified number of items with the smallest value, or that an item under comparison has a value within a specified bottom percentage value. As used herein, being within a threshold means that a value for an item under comparison is between two specified other values, that an item under comparison is among a middle-specified number of items, or that an item under comparison has a value within a middle-specified percentage range. Relative terms, such as high or unimportant, when not otherwise defined, can be understood as assigning a value and determining how that value compares to an established threshold. For example, the phrase "selecting a fast connection" can be understood to mean selecting a connection that has a value assigned corresponding to its connection speed that is above a threshold.

[0122] As used herein, the word "or" refers to any possible permutation of a set of items. For example, the phrase "A, B, or C" refers to at least one of A, B, C, or any combination thereof, such as any of: A; B; C; A and B; A and C; B and C; A, B, and C; or multiple of any item such as A and A; B, B, and C; A, A, B, C, and C; etc.

[0123] Although the subject matter has been described in language specific to structural features and/or methodological acts, it is to be understood that the subject matter defined in the appended claims is not necessarily limited to the specific features or acts described above. Specific embodiments and implementations have been described herein for purposes of illustration, but various modifications can be made without deviating from the scope of the embodiments and implementations. The specific features and acts described above are disclosed as example forms of implementing the claims that follow. Accordingly, the embodiments and implementations are not limited except as by the appended claims.

[0124] Any patents, patent applications, and other references noted above are incorporated herein by reference. Aspects can be modified, if necessary, to employ the systems, functions, and concepts of the various references described above to provide yet further implementations. If statements or subject matter in a document incorporated by reference conflicts with statements or subject matter of this application, then this application shall control.

I/We claim:

1. A method for providing a 3D conversation, the method comprising:

obtaining, from one or more capture devices of an artificial reality system, capture data comprising color images, depth images, and audio;

associating calibration data with at least part of the capture data, wherein the calibration data specifies at least position information for at least one capture device of the one or more capture devices;

compressing the capture data into a first version of the capture data; and

transmitting the first version of the capture data to a receiving artificial reality system, wherein sending the compressed first version of the capture data causes the receiving artificial reality system to:

decompress the received first version of capture data into a second version of the capture data comprising color data, depth data, and audio data;

use the second version of the capture data to generate a 3D representation at least based on the depth data;

render one or more 2D images from the 3D representation at one or more viewpoints determined for a receiving user of the receiving artificial reality system, wherein the one or more 2D images further comprise color based on the color data; and

cause output of the audio data synchronized with display of the one or more 2D images.

2. The method of claim **1**, wherein the output of the one or more 2D images includes a wearable projection system projecting light, based on the one or more 2D images, into at least one eye of a user of the receiving artificial reality system.

3. The method of claim **1**, wherein the one or more capture devices are selected from among multiple capture devices based on one or more of:

a determined relationship between a viewpoint of the selected one or more capture devices and the one or more viewpoints determined for the receiving user of the receiving artificial reality system;

a determined compute capability of the artificial reality system and/or of the receiving artificial reality system;

a determined available amount of bandwidth;

a determined battery level;

determined display capabilities of the receiving artificial reality system; or

any combination thereof.

4. The method of claim **1** further comprising assigning capture device identifiers to parts of the capture data according to the device that captured that part of the capture data;

wherein the calibration data is associated with a camera identifier for which the calibration data was generated; and

wherein the association between the calibration data and the at least part of the capture data is based on a match between the capture device identifier assigned to the at least part of the capture data and the camera identifier.

5. The method of claim **1**, wherein the compressing of at least part of the capture data comprises determining a type of the at least part of the capture data and selecting a compression algorithm specific to the determined type of the at least part of the capture data.

6. The method of claim **1** further comprising filtering portions of the capture data by:

distinguishing between a background area of the portions of the capture data and a depiction of a sending user; and

based on the distinguishing, removing from the capture data one or more depictions of the background area.

7. The method of claim **1**, wherein the capture data is the same as the second version of the capture data.

8. A computer-readable storage medium storing instructions that, when executed by a computing system, cause the computing system to perform operations for providing a 3D conversation, the operations comprising:

receiving, at a receiving 3D system, a first compressed version of capture data, wherein the first compressed version of the capture data comprises at least A) depth information in association with first timing information and calibration data and B) audio information in asso-